

OptiFiber Extended Specifications

Key OTDR Specifications (23°C)	Multimode: OFTM-5610, OFTM-5611, OFTM-5612	Singlemode: OFTM-5630, OFTM-5631, OFTM-5632
Testing Speed	<10 sec for two wavelengths at 2km with 25cm resolution <24 sec for two wavelengths at 400m with 3cm resolution	<22 sec for two wavelengths at 10km with 1m resolution <30 sec for two wavelengths at 400m with 3cm resolution ⁱ
Output/Input Connector	SC UPC	SC UPC (laser-hardened)
Wavelengths	850 ±20nm and 1300 ±20nm	1310 ±20nm and 1550 ±20nm
Fiber under test	50/125µm or 62.5/125µm multimode	9/125µm singlemode
Event Deadzone ⁱⁱ	850nm: 0.7m typical, 1m max 1300nm: 1.5m typical, 2 m max	1310/1550nm: 2.5m typical, 3m max
Attenuation Deadzone ⁱⁱⁱ	850nm: 4.5m typical, 5.5m max 1300nm: 10.5m typical, 15m max	1310/1550nm: 10.5m typical, 15m max
Pulse Width	850nm: 4ns, 20ns 1300nm: 8ns, 40ns, 100ns, 200ns, 400ns, 650ns	1310nm/1550nm: 8ns, 40ns, 100ns, 250ns, 500ns, 1us
Max Distance Range	2,000m Auto 4,000m Manual	10,000m Auto 15,000m Manual
Dynamic Range ^{iv}	850nm: >10dB 1300nm: >10dB	1310nm: >11 dB 1550nm: >9dB
Output Power	850nm: >110mW-pk 1300nm: >22 mW-pk	1310nm: >38mW-pk 1550nm: >30mW-pk
Loss Threshold ^v	0.2 dB	0.2 dB
Distance Accuracy ^{vi}	±1m ±0.005% of distance ±50% of resolution ± IOR error ± event location error	±1m ±0.005% of distance ±50% of resolution ± IOR error ± event location error
Linearity ^{vii}	±0.07 dB/dB	±0.05 dB/dB
Sampling Resolution	3cm to 50cm	3cm to 1m

Key Power Meter Specifications (23°C)	OFTM-5611, OFTM-5631
Testing Speed (worse case, not including referencing)	4.5 sec (Far End Source)
Input Connector	SC
Detector Type	InGaAs
Calibrated Wavelengths for power measurement	850nm, 1310nm, 1550nm
Power Measurement Range	0 to -60dBm (1310nm and 1550nm) 0 to -52dBm (850nm)
Display Resolution dB or dBm display Linear display (µW)	0.01
>400	1
>40	0.1
>4	0.01
>0.4	0.001
≤0.4	0.0001
Power measurement uncertainty (accuracy)	± 0.25dB ^{viii}
Measurement linearity (18°C to 28° constant temperature)	±0.1dB ^{ix} (1310nm and 1550nm) ±0.15dB ^x (850nm)
Re-calibration Period	1 year
Display Update Rate	1 reading per second

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Key Power Meter and Loss/Length Specifications (23°C)	OFTM-5612, OFTM-5632
Testing Speed (worse case, not including referencing)	Far End Source: 4.5 sec Loopback: 5 sec typical Smart Remote detection: 3 sec Smart Remote, unidirectional: 15 sec Smart Remote, bi-directional: 30 sec plus fiber swapping
Input/Output Connectors	SC/SC
Nominal Output Wavelengths	OFTM-5612: LED source: 850 nm and 1300 nm OFTM-5632: Laser source: 1310nm and 1550nm
Maximum length measurement	OFTM-5612: 2000m of 62.5 or 50µm multimode fiber OFTM-5632: 10000m of 9µm singlemode fiber
Length Measurement accuracy	±1.5m ±2% of length
Propagation time accuracy	±15ns ±2% of propagation time
Output Power	OFTM-5612: > -20dBm OFTM-5632: > -8dBm
Output Power Stability (5 min warm up) 8 hour	±0.1dB at 23°C
Power measurement detector Type	InGaAs
Calibrated Wavelengths for power measurement	850nm, 1310nm, 1550nm
Power Measurement Range	0 to -60dBm (1310nm and 1550nm) 0 to -52dBm (850nm)
Display Resolution dB or dBm display Linear display (µW)	0.01 1 0.1 0.01 0.001 0.0001
Power measurement uncertainty (accuracy)	± 0.25 dB ^{viii}
Measurement linearity (18°C to 28° constant temperature)	±0.1dB ^{ix} (1310nm and 1550nm) ±0.15dB ^x (850nm)
Dynamic Range: Unit Communications and Length Measurement	OFTM-5612: 12 dB OFTM-5632: 22dB
Re-calibration Period	1 year
Display Update Rate	1 reading per second

Key Environmental Specifications	
Operating Temperature:	0 °C to 40 °C (35 °C in continuous Real Time Trace Mode)
Non-Operating Temperature:	-20 °C to 60 °C
Relative Humidity (%RH operating without condensation):	95% (10 to 35 °C) 75% (35 to 40 °C) uncontrolled < 10 °C
Vibration:	Random, 2g, 5-500 Hz
Shock:	1 Meter Drop test while module is both inserted inside and outside the instrument enclosure.
Safety:	CSA C22.2 No. 1010.1: 1992 EN 61010-1 1 st . Edition + Amendments 1, 2
Altitude:	3000m
EMC:	EN 61326-1
Laser Safety:	Class I CDRH Complies to EN 60825-2

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General Specifications	
Weight	main frame (OF-500): 2.2 lb (1.0 kg) module (OFTM-56xx): 1.2 lb (0.54 kg) battery (OFBP-LI): 1.0 lb (0.45 kg) main with module and battery: 4.5 lb (1.9 kg)
Dimensions	main frame (OF-500): 8.9 x 7.5 x 2.5" (22.6 x 19.1 x 6.4 cm) module (OFTM-56xx): 4.8 x 7.3 x 2.5" (12.2 x 18.5 x 6.4 cm) battery (OFBP-LI): 3.5 x 7.2 x 2.5" (9.1 x 18.3 x 6.4 cm) main with module and battery: 10.6 x 7.5 x 2.5 (26.9 x 19.1 x 6.4 cm)
Battery	Li ion
Battery life	8 hr ^{xi}
Battery recharge	6 hr maximum from total discharge
Non-volatile memory	flash memory
Connections	USB, RS-232, PS-2 keyboard, Fiber Inspector camera
Memory card	SD MMC (128 MB maximum)
Record storage	internal memory: 19 minimum MMC memory: 69 min/16MB of MMC (553 on 128MB MMC)

Fiber Inspector	
	OFTM-5350, OFTM-5354
Magnification	OFTM-5350: 250X (FT350 probe) OFTM-5354: 400X (FT354 probe)
Camera type	0.33 in (8.38 mm) CCD with adjustable focus
Light source	red LED
Power source	from OptiFiber mainframe (OF-500)
Lighting technique	Coaxial
Dimensions (without adapter tip)	0.3 in x 1.3 in x 4.3 in (3.3 cm x 3.3 cm x 10.92 cm)
Weight	1.4 oz (40 g)

ⁱ <50 sec in manual OTDR mode

ⁱⁱ Event deadzones are measured to Telcordia standards for OTDR performance with connector backreflection of <-27dB multimode and <-50dB singlemode and signal energy of -4.5dB multimode (4ns pulsewidth at 850nm, 8ns pulsewidth at 1300nm) and -5dB singlemode (8ns pulsewidth)

ⁱⁱⁱ Attenuation deadzone is measured to Telcordia standards for OTDR performance with <-50dB connector backreflection using 0dB Signal Energy (20ns pulsewidth multimode, 40ns pulsewidth singlemode) in manual OTDR mode

^{iv} Effective dynamic range using Telcordia standards

^v 6dB above the noise floor

^{vi} Does not apply to the event table

^{vii} Not applicable to OTDR tests at signal energy of -4.5dB multimode and -5.0dB singlemode

^{viii} Under the following conditions:

- power level: -20dBm, continuous wave
- at 850nm: 62.5/125 μ m, 0.275 NA, at 1310nm: 9/125 μ m, at 1550nm: 9/125 μ m
- ambient temperature: 23 \pm 5 $^{\circ}$ C

^{ix} Linearity for 1310 and 1550nm:

- Between 0dBm to -55dBm is \pm 0.1dB
- < -55dBm is \pm 0.2dB

^x Linearity for 850nm:

- between -15 to -52 dBm is \pm 0.15dB Typical Performance
- between 0 to -15 dBm is \pm 0.5 dB Typical Performance

^{xi} OFTM-5632 Auto OTDR module, dual wavelength, 1 test every 5 minutes, saving data, no camera attached, 150 m fiber

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